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10/596,857	01/31/2007	Ainara Vallejo Illarramendi	020884-000007	1371

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EXAMINER

MACFARLANE, STACEY NEE

ART UNIT	PAPER NUMBER
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1649

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09/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,857	Applicant(s) ILLARRAMENDI ET AL.	
	Examiner STACEY MACFARLANE	Art Unit 1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17, 19, 20 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) 1-15, 17 and 23-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claim 21 has been cancelled, claims 19 and 20 have been amended as requested in the amendment filed on June 15, 2009. Following the amendment, claims 1-15, 17, 19, 20, and 22-27 are pending in the instant application.

Claims 1-15, 17 and 22-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper filed on May 12, 2008.

Claims 19 and 20 are under examination in the instant office action.

2. Any objection or rejection of record, which is not expressly repeated in this action has been overcome by Applicant's response and withdrawn.

3. Applicant's arguments filed on June 15, 2009 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. As currently amended, Claims 19 and 20 stand as rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. Claim 19 is vague and indefinite in so far as it employs the term "DUSP6" as a limitation.

On pages 6-7 Applicant traverses the rejection on the grounds that one of ordinary skill in the art would understand what is claimed when DUSP6 is read in light of the specification and Applicant indicates page 5, lines 10-20 as clearly defining the term. This citation within the specification states: "DUSP6 (also known as MKP-3, or MAP kinase phosphatase-3), (GeneBank code rat NM_053883, human NM_001946)" clearly indicates two proteins, whereas the claim is drawn to "reducing the activity of the DUSP6 protein". Thus, Examiner maintains that the term is indefinite.

7. As currently amended, the terms "reducing activity" and "reduce excitotoxic death" in claim 19 are relative terms which render the claim indefinite. There is no active control step to which the method comprising the agent is compared and a reduction is assessed, thus, the requisite degree of reduction/reducing is not defined by the claim. Nor does the specification provide a standard for ascertaining the requisite degree. Therefore, one of ordinary skill in the art would not be reasonably apprised if methods in the art, which teach each of the material and methodological limitations but did not specifically teach a reduction, fall within the metes and bounds of the invention.

8. Claim 20 is indefinite for depending from an indefinite claim.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. As currently amended, Claims 19-20 stand as rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, for reasons of record in the Office action mailed January 14, 2009.

On pages 7-8 of Remarks filed June 15, 2009, Applicant traverses the rejection on the grounds that Vogt et al., Chemistry and Biology, 10:733-742, published August 2003 (provided as Appendix A), demonstrates "that compounds were known in the art that inhibited the activity of the MPK-3 protein" (a.k.a. DUSP6 of the claim) and "what is conventional or well known to one of ordinary skill in the art at the time of filing need not be disclosed in detail." While this argument has been considered in full it is not found persuasive to overcome the rejection for the following reasons.

As amended, Claim 19 recites "an agent that inhibits DUSP6 protein activity". Claim 20 stipulates "wherein the agent comprises DUSP6 protein antagonist compounds inhibiting one or more of the DUSP6 protein functions."

Examiner maintains that the antagonist agent compound of the claims encompass a genus of molecules that is merely defined by its ability to inhibit a function of the DUSP6 protein. This encompasses not only those MPK-3 antagonist compounds disclosed within the Vogt et al. art, but broadly encompasses, *inter alia*, any antagonist antibody, siRNA nucleic acid molecule, or peptide mimetic. The instant specification has provided no structural description for the genus of molecules encompassed by the claims, nor any structure-to-function characteristics that must be conserved for the activity of inhibiting one or more of the DUSP6 protein functions, nor provided a representative number of examples of species within the genus. From the instant

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disclosure, it is not even clear what molecules Applicant is in possession of, nor is there written description such that one of ordinary skill in the art could easily envision the chemical or molecular structure of the encompassed genus of DUSP6 antagonists. Therefore, the rejection is maintained.

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. As currently amended, Claims 19-20 stand as rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement, for reasons of record in the previous Office action (*Id*).

On pages 8-9 of Remarks filed June 15, 2009, Applicant traverses the rejection on the grounds that claim 19 has been amended to recite a specific disease (multiple sclerosis) and “it is known from applicants’ disclosure that DUSP6 activity is high in patients suffering from same.” While these arguments have been reviewed in full they are not found persuasive for the following reasons.

The invention is based on a finding of elevated expression of DUSP6 in post-mortem tissue from multiple sclerosis (MS) patients (Specification page 33). However, the instant specification has provided no indication of elevated DUSP6 protein activity in MS. Furthermore, the disclosure provides no guidance as to how one of ordinary skill in the art would assess “one or more DUSP6 protein functions”, as required by the instant claims. Additionally, there is no nothing of record, within the specification or the art at

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the time of filing, to suggest a nexus between a DUSP6 protein function and the etiology or pathology of multiple sclerosis. Lastly, there is no working example comprising in vivo administration of any DUSP6 agent, nor is there an in vitro model that would be predictive of success to “reduce excitotoxic death of oligodendrocytes in an individual having multiple sclerosis.” Therefore, one of ordinary skill in the art would not know how to practice the method as claimed within making a substantial inventive contribution. Examiner maintains that one of ordinary skill in the art would have to first identify an assessable DUSP6 activity and correlate an increase in said activity with the specific pathology of multiple sclerosis; then demonstrate that administration of any DUSP6 antagonist agent is effective to reduce excitotoxic death of oligodendrocytes in MS patients relative to untreated MS patients. Since excitotoxic oligodendrocyte death cannot easily be assessed *in vivo*, such methodology requires longitudinal studies demonstrating a reduction in the relative amount of oligodendrocyte death in treated patients versus untreated patients, upon post-mortem analysis. Examiner maintains that such experimentation goes beyond that which is considered routine within the art, and constitutes undue experimentation in order to close the gaps between mere *in vitro* PCR findings and *in vivo* reduction of oligodendrocyte death in MS patients. Therefore, the rejection is maintained.

Conclusion

13. No Claim is allowed.

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14. This application contains claims drawn to an invention nonelected with traverse in Paper filed on May 12, 2008. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

15. Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STACEY MACFARLANE whose telephone number is (571)270-3057. The examiner can normally be reached on M-W and F 5:30 to 2, TELEWORK-Thursdays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker can be reached on (571) 272-0911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stacey MacFarlane
Examiner
Art Unit 1649

/John D. Ulm/
Primary Examiner, Art Unit 1649